

# **Rho-star scaling and physically realistic gyrokinetic simulations of transport in DIII-D**

R.E. Waltz

General Atomics, P.O. Box 85608, San Diego, California 92186-5608

Contact author: R.E. Waltz, General Atomics, P.O. Box 85608, San Diego, California  
92186-5608, Phone (858) 455-4584, Fax (858) 455-3586,  
e-mail: waltz@fusion.gat.com

Total pages: 26 (21 text, 5 figures, 0 table)

(Received

**Abstract.** This paper briefly reviews the DIII-D experiments to determine rho-star ( $\rho_*$ ) confinement scaling to reactors, the theory of broken gyroBohm scaling from local rotational shear stabilization and various nonlocal effects, and how the gyrokinetic code GYRO is being used for physically realistic simulations to understand Bohm scaling in L-modes.

**PACs Nos.** 52.55Fa, 52.65Tt, 52.25i, 52.30Gz